Effects of crocus sativa stigma extract alongside Fluoxetine on depression and anxiety models; A behavioral and Immunohistochemistry approach

Ramin Ataee

Mazandaran University of medical sciences, Iran

Abstract:

Background:

depression is a worldwide challenge for humanity in terms of social and health system burden. The current therapies are much more advanced yet occurrence of adverse reactions and relapses encourage us for far more efficacious and safer drugs. Reports of crocus sativa antidepressant activities in literature and traditional medicine makes it a potential starting point for search of such agents.

Material and methods: animals treated for 21 days with saffron extract then tail suspension test and forced swimming tests used to evaluated behavioral aspects of antidepressant activity and elevated plus maze for anxiolytic effects. after that animal's brain dissected for immunohistochemistry assay. Using DAB staining SERT and NET transporters visualized and counted.

Results:

both extract dosage co-administered with fluoxetine showed significant antidepressant effects in both tail suspension and forced swimming tests. Coadministration of extracts with fluoxetine also showed anxiolytic effects in elevated plus maze. Immunohistochemistry of cortex sections revealed changes in expression of SERT and NET in co-administration of extracts dosages with fluoxetine.

Discussion:

since antidepressant effects of crocus sativa has been well documented can be considered as a target for future more detailed investigations. Changes in SERT and NET expressions is proposed to have a role in long lasting effects of antidepressants even after discontinuation of therapy. therefore, we recommend changes in neurotransmission be looked into in more details for further investigations.

Keywords:

crocus sativa extract, saffron, mixed anxiety-depressive disorder, elevated plus maze, forced swimming test, tail suspension test, fluoxetine, SERT Expression, NET expression